

A guide to mounting wall panels

Getting the look and feel the designer intended

Interpreting drawings to everyone’s satisfaction can be challenging but it is obvious that wall panels need to be securely fixed in place and preferably attached without unsightly screws or bolts on show. Precise grid lines and neat panel abutments are usually important too.

The requirement of the project

The first thing to consider is the characteristics of the desired panel; its thickness, size, material type and its weight, its edge detailing and surface quality, its technical function, its cost and its orientation in situ. Once all these are known, appropriate fixings can be specified.

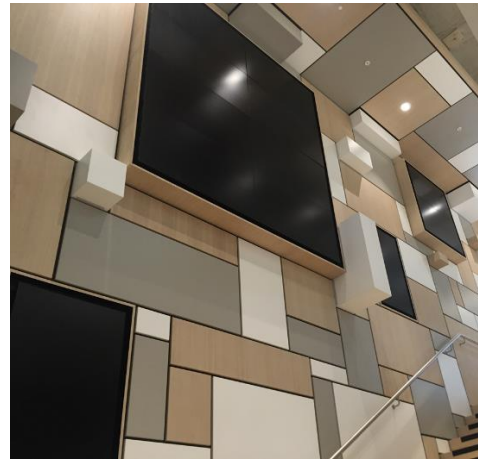
What is the substrate that the panel needs to attach to?

Is the substrate perfectly flat, how strong is it, what plane is it in and can it carry the load? Getting the grounds flat and plumb is essential if the panels are to be mounted in plane and look as good as the drawing promises.

Types of fixing

Split battens and metal finger plates (flush mounts)

Having excluded glues and visible screws, bolts and nails, we are left with concealed fixings. Some of these, like the spilt batten (or French cleat) are made on site by a joiner or metal finger plates which have been around for many years. The former has probably been used as long as joinery has been practiced, but are these appropriate today? Both are still used but the finger plate usually requires eight screws, is very difficult to align and is not well liked by fitters. The split batten is easy to make but tends to consume a lot of space and offers no side-to-side location. More importantly, neither have kept pace with manufacturing methods or the increased cost of time on site.



Push on fixings

Push on fixings can work well in the right circumstances although ‘push on’ also means ‘pull off’ so it requires the degree of force that is required in either direction to be carefully considered.

Push on fittings either use a metal spring or, if made from a polymer, a flexure point is introduced into the moulding to grip or snap onto its counterpart.

Some polymer fixings are injection moulded from polycarbonate. Whilst this is a strong polymer, they can suffer from ‘environmental stress cracking’ (sometimes caused by airborne pollutants) and is relatively brittle compared to polymers like ABS (Lego bricks are made from ABS), nylon or glass filled nylon. The glass fibres act as a matrix within the polymer thus converting the nylon to a composite material - massively increasing its strength.

Wind loading, heat expansion and UV degradation

These issues apply to external panels. A hook and rail system that is warranted for external use is usually used here. The hooks and rails allow for expansion whilst a point mounted (screwed or glued) system does not have any give in it

Scale plays a part in in the internal/external discussion. Panels for applications like modestly sized external signage should be safe enough with point fixings but anything over 1m square should be mounted with a purpose-built external system. Ultra violet light (UV) degradation can only occur if the polymer is in direct sunlight and unless the panels are transparent, the fixings will be in almost complete darkness.

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